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THE UNEMPLOYMENT EXPERIENCE OF MALE IMMIGRANTS IN ENGLAND

By

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In this paper the unemployment experience of immigrant men in the English labour market is examined, using 1993-4 data from the Quarterly Labour Force Survey of the United Kingdom. Hypotheses proposed by Chiswick (1982) are investigated, for both the claimant count and the ILO measures of unemployment, using logistic regression analysis. Our results show that recent white and non-white immigrant men experience much higher levels of unemployment than earlier cohorts. For whites, this effect is transitory, whereas for non-whites unemployment rates adjust more slowly as the duration of stay increases. Immigrant unemployment rates also vary considerably with country of birth.

KEYWORDS: Immigrants, Unemployment, Ethnic Minorities.

JEL CLASSIFICATION: J61, J64, J15.

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I. INTRODUCTION

The economic and social disadvantages experienced by Britain's ethnic minorities have been well documented over the course of the last fifty years. Recent descriptive contributions include Jones (1993) and Modood et al. (1997). However, much of this research pays scant attention to the fact that the vast majority of the members of the ethnic minorities, currently living in the United Kingdom, were born abroad. The economics literature concerning immigration has shown that there are interesting and important differences between the labour market performance of native born and foreign born individuals (see Borjas, 1994 and Ghatak et al., 1996 for recent surveys).

In particular, because immigrants lack location-specific human capital, and their skills may not transfer perfectly into the host countries' labour market, they are unable to compete on an equal basis with native born individuals immediately after immigration. However, as time spent in the destination labour market increases, immigrant outcomes assimilate or adjust towards those of their native counterparts (Chiswick, 1978). Furthermore, there are substantial differences in the labour market performance of immigrant workers according to their country of birth (Borjas, 1991, 1992).

The contrasting unemployment rates, of white and non-white males in the UK, have been investigated by Blackaby et al. (1999) and Blackaby et al. (1997), using the annual Labour Force Survey and the 1991 Census,[1] respectively. Using Oaxaca-type decomposition methodologies they show that unemployment differentials vary considerably across ethnic groups, but that they have no common cause. For some groups (Africans and the Irish) characteristic differences explain the majority of the unemployment rate gap, whilst for others (Bangladeshis, Indians and Pakistanis), the differential rewards to these characteristics are to blame.

The variations in the size of the latter component are attributed to a number of factors including different amounts of discrimination, the contrasting response of ethnic groups to discrimination, greater amounts of non-assimilation by some groups and variations in endowments of

[1] The definition of unemployment used in the 1991 Census, although close to the International Labour Office (ILO) definition, makes no time restriction concerning responses to when job search activity was last undertaken. This leads

unobserved characteristics, particularly in the English language (Blackaby et al., 1997, 1999).[2] As Blackaby et al. (1997) admit, the use of such a decomposition methodology is problematic and provides results which are very difficult to interpret precisely. In terms of the duration of unemployment, Thomas (1997) suggests that a reduced willingness to commute on the part of non-whites may explain 20% of the ethnic difference in average unemployment spells, whereas different cultural attitudes to work are not important (Thomas, 1998). However, the use of ethnicity, as the sole distinguishing characteristic, does not take into account possible variations between and within ethnic groups according to country of birth, or time spent in the UK.

In this paper we use Chiswick's (1982) model of immigrant adjustment to investigate the roles that years since migration and country of birth play in explaining unemployment amongst immigrants in England, as Chiswick and Hurst (1998) have recently done for the United States.[3] By pooling eight Quarterly Labour Force Surveys (QLFSs) of the United Kingdom, undertaken between December 1992 and November 1994, we obtain a sample size of 75,000 males, aged 25-64, and living in England.[4] We estimate our models separately for white and non-white native born and foreign born men.[5]

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to a higher response rate to this question and therefore higher reported rates of unemployment in comparison to the ILO definition used in the LFS.

[2] Reporting errors in the data source, measurement errors endemic in the definitions of the characteristics used and, since the sample contains 16-24 year olds, ethnic differences in the take up of higher education (see Modood and Shiner, 1994) may also account for some of the unexplained component.

[3] Chiswick's (1982) model was originally formulated in terms of employment rather than unemployment. Nevertheless Chiswick and Hurst (1998) investigate employment, unemployment and unemployment compensation using the model. In a companion paper we investigate the employment (employed or self-employed out of the whole population) adjustment of male immigrants to England (Wheatley Price, 1998b). It is important to recognise that Chiswick's model referred to the United States. Since the underlying institutional structures in the labour markets of the United States and in England are different these factors may well encourage differences in job search behaviour, and therefore employment outcomes, between otherwise identical individuals in the two countries. We would expect that the level of employment and the parameter estimates might differ (in size, not sign) across the two countries.

[4] The QLFS is the only nationally representative UK data source that contains a large sample of immigrants and which asks questions about both country of birth and year of immigration. However, it does not contain some information, such as English language ability or reason for immigration that would be useful to include in our models. We use only those aged over 24 in our sample to avoid the participation in higher education problem (see note 2) and who were present at the first interview for their cohort. Since an individual is interviewed for five successive quarters we are able to take individuals in wave 5 from all quarters and those in wave 1 from the last four quarters. This avoids double counting but increases the sample sizes by 50%.

[5] Statistically reliable estimation of separate ethnic groups was not possible, due to their small sample sizes.

We use two different definitions of unemployment as our dichotomous dependent variables. Firstly, according to the internationally recognised standard devised by the International Labour Office (ILO), a person is unemployed if they are of working age, without a paid job, are available to start work in the next two weeks and have either looked for work at some time in the previous four weeks, or are waiting to begin employment which has already been secured (see Sly, 1994, technical note). The total number of such males, as a percentage of the economically active male population, aged 25-64, is the ILO unemployment rate. The results using this definition are the focus of the paper.

Our second definition of unemployment is whether an individual is claiming unemployment benefit. This is the official measure of unemployment in the United Kingdom. The claimant count is calculated as the total number of persons claiming unemployment benefit as a proportion of the whole male population.[6] The various rules and regulations governing eligibility for payments make this measure a much poorer indicator for economists. However, since it is the measure that policymakers are concerned with, it is worthy of consideration alongside the much clearer ILO definition. The results using this definition are available for comparison in the Appendix.

The paper is set out as follows. In section II we summarise the key hypotheses of Chiswick's (1982) model. Section III describes the main characteristics of our sample. The empirical methodology is outlined in section IV whilst our results are discussed in section V. Section VI concludes.

[6] To be eligible to claim unemployment benefit, an individual must have accumulated a certain level of National Insurance contributions, usually as payments deducted from wages or via credits made whilst actively looking for work. Therefore, a person only qualifies for unemployment benefit if they have previously been in work, or available for work, for some time. They must also be currently available and actively seeking work to qualify for unemployment benefit, otherwise they are only eligible for other forms of social security. Those unable to work, through sickness, ill-health or other commitments, or unwilling to look for work in the designated ways or through recognised channels do not qualify for unemployment benefit.

II. MODEL HYPOTHESES

The key explanatory variables in the standard microeconomic model of unemployment are an individual's stock of human capital, his family characteristics and his geographical location within a country (e.g. Nickell, 1980). In the light of human capital theory (Becker, 1964) we would expect that an individual is less likely to be unemployed the larger their stock of skills which are appropriate to the prevailing labour market conditions. Since those with the least desirable skills would not only be the least employable but also earn the lowest wages, their opportunity cost of being unemployed is also smaller.

Thus human capital accumulation, by means of formal schooling or post-education investments in labour market activity would be associated with lower probabilities of unemployment. If the post-education investments take the form of on-the-job firm-specific training (often employer-funded) we would expect measures of labour market experience to be associated with lower quit, discharge and layoff rates, and thus lower unemployment rates. Given our theoretical considerations we would expect this negative association to be strongest in the early years of labour market activity.

Married men are less likely to unemployed because they have a greater incentive to find work to provide for their family, or because employers take marriage as a signal of responsibility and reliability. The opportunity cost of working and job search increases with every dependent child. Previous studies have found that this effect outweighs the increased motivation for work caused by the need to provide for the family (Blackaby et al, 1997). Unemployment may also be expected to vary with region of geographic residence and the timing of interview (i.e. quarter and year).

Chiswick's (1982) addition to this standard model is based on the job search behaviour of immigrants, as they adjust to the labour market conditions of the host country, and the particular characteristics of the foreign born.[7] Immigrants are assumed to carry with them human capital, in the form of formal schooling and labour market skills, acquired in their country of birth. These skills do not transfer perfectly across national borders due to the different characteristics of each country's

labour market (Chiswick, 1978). In addition, the knowledge acquired in the source country by the immigrant, concerning the labour market in the destination country of choice, is assumed to be imperfect. The sources of information, often previous immigrants from the same origin country, may be biased and incomplete. Therefore immigrants (especially the small number who are refugees) are unable to prepare adequately for employment in the destination labour market and are thus at a disadvantage, compared to otherwise equivalent native born males, when they enter it.

As with other new entrants to the labour market, immigrants are unlikely to have already arranged employment and are therefore more likely to be unemployed. Thus, they will need to engage in job search activity. Moreover, this activity is likely to be less effective than equivalent natives since immigrants may suffer from a lack of appropriate language skills, and have little knowledge of the labour market institutions, job opportunities or business customs. Over time, through investments in location-specific human capital, immigrants adjust to the host country's labour market conditions and acquire the necessary knowledge and employer-desirable skills to enable them to be effective in their job search.

One consequence of the lack of knowledge of local labour market conditions for immigrants is that they are unaware of where the most profitable job opportunities lie. This results in greater uncertainty about those jobs which are offered and provides the incentive for immigrants to engage in more job search activity than the native born, who are able to evaluate job offers more accurately. Thus immigrants might be expected to sacrifice more resources on the job search process in order to understand the local labour market better and find more profitable job opportunities. Since time is one of the most important resources for job search, immigrants, on average, will initially spend less time in employment, and more time in job search from unemployment, than natives. Immigrants may also experience higher turnover rates due to being disproportionately engaged in temporary and seasonal jobs or because they are more likely to have been newly recruited making them vulnerable in cyclical downturns.

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[7] See also Chiswick and Hurst (1998) for a recent discussion.

Additionally, from the employer's perspective, the suitability of immigrants as employees may be hard to judge. This is more likely the less similar is the country of origin to the UK, especially in terms of its economic structure and educational system. The greater their uncertainty, the lower will be employer's estimates of the benefits from hiring foreign born workers with a resultant lower distribution of wage offers. Furthermore, many foreign born workers may not be fluent communicators in the English language, which could severely limit the value, to the employer, of such employees (e.g. Kossoudi, 1988) and restrict their ability to successfully undertake certain jobs. Together these factors will cause more hiring mistakes, where immigrant workers are concerned, and therefore higher discharge rates, resulting in a higher probability of unemployment for such workers.

However, as the duration of residence in the destination country increases, immigrants will acquire the necessary location-specific human capital and will increasingly accept employment opportunities that match their aspirations and spend less time in job search from unemployment. Furthermore, employers will be able to assess an immigrant's productivity more accurately and will make fewer hiring mistakes. Thus quit, discharge and layoff rates would be expected to fall. All these adjustments suggest that immigrant workers would, over time, experience unemployment rates closer to that of native workers.

As Borjas (1991, 1992) has argued, the national origin mix of immigrants is a crucial determinant of their labour market performance. Since the quality of schooling varies across countries and the skills obtained through formal education might not be equally transferable to the UK labour market, particularly if immigrants are not fluent communicators in the English language, we would anticipate differences according to country of birth. The same argument applies to post-school human capital investments. There may also be systematic differences in unobserved characteristics determined before migration by the prevailing characteristics of the origin country (Borjas, 1985, 1987). An obvious example is if all the immigrants from one country were refugees (Borjas, 1991).

Only once these possibilities have been controlled for does it make sense to use remaining differences as a measure of discrimination. Here, employers may be less willing to hire workers from ethnic minority backgrounds if they use ethnicity as a screening device for less productive workers or engage in discriminatory practices in the access to jobs (Becker, 1957). Alternatively, employers may be only willing to employ ethnic minority workers in a limited variety of jobs, thus reducing their employment opportunities. Ethnic differences in unemployment rates may also be the product of discrimination elsewhere in the labour market, such as in the access to work-related training (Shields and Wheatley Price, 1997).

III. DESCRIPTIVE ANALYSIS

The means and standard deviations of the characteristics of the economically active sample, consisting of all males employed and unemployed (ILO definition), are presented in Table 1.[8] They show that the 4.4% of white men who are foreign born are more likely, on average, to be ILO unemployed (12.0%) than their native born counterparts (9.3%), but they possess more years of education (12.08 compared to 11.71). However, their accumulation of potential labour market experience is lower.[9] White foreign born males predominantly reside in Greater London and the South. The comparable statistics for the non-white males in our sample show that 84.6% are foreign born and that the ILO unemployment rate is higher for the native born group (24.3%, compared to 19.4% for non-white immigrants) primarily reflecting their younger age profile. Native born non-whites also have slightly fewer years of education (12.9 compared to 13.3) whilst foreign born non-whites are more likely to be married and have children. Both groups are concentrated in Greater London.

[8] This sample totals 66030 individuals and amounts to 88% of the total population of 25-64 year old males. The corresponding table for the sample used in the claimant count measure analysis is in the Appendix.

[9] We use the usual measures of years of education and potential labour market experience, assuming that all individuals began school aged five. However, the potential experience measure may over-account for actual experience amongst the non-white and foreign born groups due to previous unemployment spells and may lead to downwardly biased coefficient estimates of this variable.

Table 1. Descriptive Statistics: all economically active men aged 25-64

Variable	White				Non-White			
	Native Born		Foreign Born		Native Born		Foreign Born	
	Mean	St.Dev.	Mean	St.Dev.	Mean	St.Dev.	Mean	St.Dev.
Unemployment Rate (ILO definition)	0.093	0.291	0.120	0.325	0.243	0.429	0.194	0.395
Foreign Born / Native Born	–	–	0.044	0.206	–	–	0.846	0.361
Years of Education	11.71	2.47	13.08	3.82	12.98	2.90	13.42	4.23
Years of Potential Experience	25.15	11.34	24.45	13.09	12.40	6.87	23.39	11.11
Married or living together	0.803	0.398	0.795	0.404	0.549	0.498	0.857	0.350
No dependent children aged < 16	0.602	0.490	0.592	0.492	0.647	0.478	0.403	0.490
One dependent child aged < 16	0.159	0.366	0.158	0.365	0.169	0.375	0.184	0.387
Two dependent children aged < 16	0.173	0.378	0.169	0.375	0.123	0.328	0.223	0.416
Three dependent children aged < 16	0.066	0.248	0.081	0.273	0.061	0.240	0.191	0.393
Living in the Midlands	0.201	0.401	0.125	0.330	0.204	0.403	0.196	0.397
Living in the North	0.303	0.459	0.148	0.355	0.169	0.375	0.171	0.376
Living in the South	0.397	0.489	0.370	0.483	0.160	0.367	0.172	0.377
Living in Greater London	0.099	0.299	0.357	0.479	0.468	0.499	0.462	0.499
Immigrated Pre-1955	–	–	0.173	0.379	–	–	0.013	0.111
Immigrated 1955-1959	–	–	0.147	0.355	–	–	0.055	0.227
Immigrated 1960-1964	–	–	0.161	0.367	–	–	0.181	0.385
Immigrated 1965-1969	–	–	0.136	0.342	–	–	0.201	0.401
Immigrated 1970-1974	–	–	0.096	0.294	–	–	0.186	0.389
Immigrated 1975-1979	–	–	0.065	0.247	–	–	0.132	0.339
Immigrated 1980-1984	–	–	0.051	0.220	–	–	0.081	0.273
Immigrated 1985-1989	–	–	0.093	0.290	–	–	0.088	0.283
Immigrated 1990-1994	–	–	0.078	0.269	–	–	0.064	0.245
Born in the Republic of Ireland	–	–	0.277	0.448	–	–	–	–
Born in the USA	–	–	0.050	0.217	–	–	–	–
Born in Canada, NZ or Australia	–	–	0.080	0.272	–	–	–	–
Born in SW Europe	–	–	0.060	0.237	–	–	–	–
Born in Italy	–	–	0.056	0.230	–	–	–	–
Born in Germany	–	–	0.069	0.244	–	–	–	–
Born in NW Europe	–	–	0.058	0.242	–	–	–	–
Born in SE Europe	–	–	0.076	0.266	–	–	–	–
Born in Eastern Europe	–	–	0.037	0.189	–	–	–	–
Born in USA, CAN, NZ, AUS, Europe	–	–	–	–	–	–	0.010	0.099
Born in the Middle East or N Africa	–	–	0.049	0.216	–	–	0.052	0.222
Born in Kenya	–	–	–	–	–	–	0.086	0.280
Born in Uganda	–	–	–	–	–	–	0.039	0.193
Born in Central & East Africa	–	–	–	–	–	–	0.037	0.189
Born in West Africa	–	–	–	–	–	–	0.048	0.214
Born in W, Central & E Africa	–	–	0.031	0.172	–	–	–	–
Born in S Africa	–	–	0.041	0.199	–	–	0.029	0.169
Born in Jamaica	–	–	–	–	–	–	0.078	0.267
Born in the rest of the Caribbean	–	–	–	–	–	–	0.063	0.242
Born in the Caribbean	–	–	0.011	0.105	–	–	–	–
Born in Bangladesh	–	–	–	–	–	–	0.046	0.209
Born in Sri Lanka	–	–	–	–	–	–	0.023	0.150
Born in India	–	–	0.029	0.167	–	–	0.250	0.433
Born in Pakistan	–	–	–	–	–	–	0.145	0.352
Born in Bangladesh/Sri Lanka/Pakistan	–	–	0.008	0.091	–	–	–	–
Born in HK, Malaysia or Singapore	–	–	0.036	0.186	–	–	0.045	0.207
Born in the rest of the world	–	–	0.024	0.152	–	–	0.047	0.213
Sample Size	59763		2774		539		2954	

Note: For dummy variables, the values shown are the proportion of the sample for which the value is one.
Source: Authors' own calculations based on subsamples from the Quarterly Labour Force Surveys of the United Kingdom, Winter 1992 - Autumn 1994.

Nearly half of all foreign born whites, in our sample, came to the UK before 1965. The proportion arriving over the next two decades fell from 13.6% between 1965 and 1969 to 5.1% in the early 1980s, with 17.1% of immigrant whites entering in the last decade. Ireland is by far the largest source country for white immigrants to England, accounting for 27.8% of our sample. Many of the white immigrants are British and immigrated to the UK whilst they were still children (see also Shields and Wheatley Price, 1998).

The variation in the time of arrival of non-white immigrants to the UK is noticeably different from the white foreign born males. Only 6.8% of the non-whites in our sample were present in the UK before 1960. During the 1960s about 38% of our sample entered the country. This stimulated a tightening of immigration policy for non-whites (see Hatton and Wheatley Price, 1998, for details) which resulted in a dramatic slow-down over the next fifteen years. More recently about 15.2% of the sample arrived in the last decade. The source countries for non-white immigrants are also very different for non-whites. The Indian subcontinent is the source of over 45% of the non-white male immigrants in our sample (India – 25%; Pakistan – 14.5%). Furthermore, many of the 12.5% of immigrants born in Kenya and Uganda are of South Asian origin. The Caribbean, Africa and the Middle East are also major source areas. The performance of the non-white population is therefore likely to differ greatly, even after controlling for other characteristics, due to the diverse characteristics of these origin countries.

IV. EMPIRICAL SPECIFICATION

Given the cross-sectional nature of our dataset and its limitations, we cannot estimate the underlying structural model using separate labour demand and labour supply functions. Consequently we use a reduced form model in order to estimate the probability of a 25-64 year old male, with certain observable characteristics, being ILO unemployed as opposed to being not ILO unemployed, but

economically active (i.e. employee/ self-employed etc.).[10] The model arises from defining an individual-specific unobservable random index which indicates the propensity of being unemployed. Letting U_i^* be the unobserved, or latent, variable given by:

$$U_i^* = x_i'\beta + \varepsilon_i \qquad (1)$$

where x_i' represents a vector of observable characteristics (including a constant) for the ith individual, β is the vector of associated coefficients and ε_i denotes the error term. The choice for the probability distribution function for ε_i is the standard logistic distribution, with mean zero and variance one. However, we do not observe U_i^*. Instead we can define the observed random variable UNEMP as follows:

$$unemp_i = 1 \text{ iff } U_i^* > 0$$

$$unemp_i = 0 \text{ iff } U_i^* \leq 0 \qquad (2)$$

which indicates whether the individual i is observed in unemployment or not. This is equivalent to assuming that we observe the sign of U_i^* but not its numerical value.

As is standard in these analyses (e.g. Nickell, 1980; Blackaby et al., 1997; Chiswick and Hurst, 1998) we use a binary logistic regression model (logit) estimated by the method of maximum likelihood (see Greene, 1993, pp. 635-655 for details) with UNEMP as the dependent variable. The logit model calculates the probability of the ith individual being observed in unemployment as follows (Greene, 1993, p. 638):

$$\text{Prob}(unemp_i = 1) = \frac{e^{(b'x_i)}}{\left[1 + e^{(b'x_i)}\right]} \qquad (3)$$

We estimate such logistic regression models for the white and non-white samples separately, since we anticipate that the coefficient estimates across these groups will be substantially different.[11] Firstly, the basic unemployment model is estimated for the native born samples to provide baseline

[10] For the claimant count estimates the dependent variable is claiming unemployment benefit rather than not claiming it. All males aged 25-64 are used in obtaining these estimates.

[11] Pooled sample estimates of the standard model indicate that there are statistically significant differences between these groups of workers, holding returns to other characteristics constant (Wheatley Price, 1998a).

comparisons. Next, pooling the white native born sample with each foreign born sample, we introduce dummy variables indicating the timing of immigration.[12] Controlling for total potential labour market experience, these variables capture the separate effect of time spent in the UK on the probability of immigrant unemployment. This model enables a direct comparison of foreign born unemployment outcomes, with those of native workers, for each cohort. Lastly, we estimate a foreign born unemployment model including all these variables together with country of birth dummy variables. Here, allowing for differences in the returns to characteristics and controlling for common country of birth factors, we estimate the actual unemployment adjustment process for male immigrants in England.

Due to the non-linear nature of the underlying logistic distribution, we report the estimated probabilities of each category variable, holding other characteristics at their mean values, for the main models. The probability of unemployment of a person with average characteristics (denoted $\overline{X}$) can be predicted using the estimated coefficients from the model (denoted $\hat{b}$) and the logistic distribution as follows:

$$\Pr\left(\overline{X},\hat{b}\right) = \frac{1}{1+\exp^{-\left(\overline{X}\hat{b}\right)}} \qquad (4)$$

This is reported in percentage terms in our tables. For the continuous variables (years of education or potential labour market experience) we repeat the calculation, replacing the vector of sample means ($\overline{X}$) with the same vector augmented with the indicated change in characteristic. For the dummy variables we use the vector of sample means with all the dummy variables within the characteristic under consideration set to 0 in order to calculate the separate effect of the base category and then, for the other categories, the same vector is used with each dummy variable in turn taking the value 1.

[12] This specification allows us to capture the non-linearities far better than a linear or quadratic functional form of years since migration. For non-white immigrants, the results are reported for a pooled sample of white native born men and non-white foreign born men.

V. RESULTS

Our results for the white male samples, using the ILO definition of unemployment, are presented in Table 2 and those for non-whites in Table 3.[13] The logistic regression results indicate that years of education and years of potential labour market experience have a significant and negative influence on unemployment in England, amongst white native born males aged 25-64. Moreover, the effect of potential experience is non-linear, with the coefficient on the years of potential experience squared variable being positive and significant. Thus, beyond a certain level, extra years of labour market activity are associated with an increasing probability of unemployment.

The reported estimates also show that being married, or living together with a partner, significantly reduces, but that having three or more dependent children significantly increases, the probability of being unemployed for white native born men. Indeed, these males are increasingly more likely to be unemployed the more children they have. Geographical location also plays a part in explaining unemployment rates in England. These are typical findings and confirm those of previous studies (such as Nickell, 1980; Chiswick, 1982; Blackaby et al., 1997).

Interestingly, our human capital measures of schooling and potential labour market experience do not significantly affect the probability of non-white native born men being ILO unemployed. The finding for education is surprising, particularly since these men are better educated, on average, than their white counterparts and are more likely to participate in higher education (Modood and Shiner, 1994). It must be the case that non-white native born men are either receiving a lower average quality of education than whites, perhaps due to their concentration in deprived inner cities, or that there are systematic differences in unobserved characteristics between these two populations or that non-whites face barriers in accessing jobs that whites do not. The familial and regional characteristics have similar effects to those for whites.

[13] The corresponding tables, using the claimant count measure, are found in the Appendix. The results are similar to those using the ILO unemployment definition. However, the coefficient on the potential experience measure has the opposite sign, and the coefficient on the 1990-94 year of immigration cohort is not significant for non-white immigrant men. This is probably due to the eligibility requirements for claiming unemployment benefit requiring considerable time to have already been spent in the labour market.

Table 2. Logistic regression results: ILO unemployment – white men

Variable [Predicted probability]	Native Born Coefficients (T-ratios)	Native Born Predicted Probabilities	Pooled Coefficients (T-ratios)	Foreign Born Coefficients (T-ratios)	Foreign Born Predicted Probabilities
Constant [Average person]	1.136 (7.61)	7.87	1.059 (7.51)	.6035 (1.08)	8.79
Years of Education [+ 2]	–.2111 (22.8)	5.30	–.2064 (24.1)	–.1609 (6.48)	6.53
Years of Potential Experience [+ 5]	–.4023 (6.77)	7.94	–.0401 (6.63)	–.0056 (0.23)	9.10
(Years of Potential Experience)^2 /100	.0801 (7.07)	–	.0767 (6.99)	.0247 (0.56)	–
Not married or living together	~	18.00	~	~	20.17
Married or living together	–1.175 (31.5)	6.35	–.1756 (32.3)	–1.213 (7.66)	6.99
No dependent children aged < 16	~	6.87	~	~	7.64
One dependent child aged < 16	.1654 (3.77)	8.00	.1678 (3.52)	.2108 (1.01)	9.27
Two dependent children aged < 16	.2911 (5.93)	8.98	.2914 (6.10)	.3406 (1.61)	10.42
Three dependent children aged < 16	1.069 (19.1)	17.67	1.051 (19.3)	.7508 (3.14)	14.92
Living in the Midlands	~	7.31	~	~	10.05
Living in the North	.1978 (4.82)	8.77	.1826 (4.54)	–.2473 (1.09)	8.02
Living in the South	–.0335 (0.82)	7.09	–.0505 (1.26)	–.3405 (1.70)	7.36
Living in Greater London	.3360 (6.28)	9.94	.3268 (6.40)	.0405 (0.21)	10.42
Immigrated Pre-1955	~	–	.2101 (1.39)	–.1202 (0.37)	6.70
Immigrated 1955–1959	~	–	.3796 (2.50)	.1038 (0.33)	8.24
Immigrated 1960–1964	~	–	.1957 (1.27)	–.0267 (0.09)	7.31
Immigrated 1965–1969	~	–	.2430 (1.43)	.0582 (0.19)	7.90
Immigrated 1970–1974	~	–	.1368 (0.64)	.0045 (0.01)	7.52
Immigrated 1975–1979	~	–	.6537 (2.81)	.5064 (1.50)	11.84
Immigrated 1980–1984	~	–	1.182 (5.22)	1.084 (3.26)	19.32
Immigrated 1985–1989	~	–	.1110 (0.48)	~	7.49
Immigrated 1990–1994	~	–	1.002 (4.65)	1.116 (3.40)	19.82
Born in the Republic of Ireland	~	–	~	~	12.19
Born in the USA	~	–	~	–1.359 (2.78)	3.44
Born in Canada, NZ or Australia	~	–	~	–1.198 (3.61)	4.02
Born in SW Europe	~	–	~	–.4904 (1.75)	7.83
Born in Italy	~	–	~	–.7052 (2.36)	6.42
Born in Germany	~	–	~	–.1413 (0.52)	10.75
Born in NW Europe	~	–	~	–.6071 (1.87)	7.03
Born in SE Europe	~	–	~	–.1141 (0.49)	11.02
Born in Eastern Europe	~	–	~	–.0250 (0.08)	11.92
Born in the Middle East or N Africa	~	–	~	.1252 (0.42)	13.59
Born in W, Central & E Africa	~	–	~	–1.804 (2.44)	2.23
Born in S Africa	~	–	~	–.3839 (1.05)	8.64
Born in the Caribbean	~	–	~	1.137 (2.58)	30.20
Born in Bangladesh/Sri Lanka/Pakistan	~	–	~	.0157 (0.02)	12.36
Born in India	~	–	~	–.0988 (0.26)	11.17
Born in HK, Malaysia or Singapore	~	–	~	–.0665 (0.19)	11.49
Born in the rest of the world	~	–	~	–.7215 (1.31)	6.32
Restricted Log-Likelihood (Slopes = 0)	–18544.5		–19575.5	–1020.1	
Unrestricted Log-Likelihood	–17475.2		–18407.0	–899.6	
Model χ^2	2138.7		2336.3	240.9	
Degrees of Freedom	14		23	38	
Sample Size	59763		62537	2774	

Note: Absolute asymptotic t-ratios are in parentheses. All χ^2 statistics are significant at the 1% level. ~ indicates that the variable was not included in the model. Three seasonal and one year dummy variables were also included.
Source: Authors' own calculations based on subsamples from the Quarterly Labour Force Surveys of the United Kingdom, Winter 1992 – Autumn 1994.

Table 3. Logistic regression results: ILO unemployment – non-white men

Variable [Predicted probability]	Native Born Coefficients (T-ratios)	Native Born Predicted Probabilities	Pooled* Coefficients (T-ratios)	Foreign Born Coefficients (T-ratios)	Foreign Born Predicted Probabilities
Constant [Average person]	.2572 (0.23)	20.75	.6382 (4.98)	–.4587 (1.11)	16.52
Years of Education [+ 2]	–.0416 (0.78)	19.42	–.1658 (22.5)	–.0476 (3.15)	15.25
Years of Potential Experience [+ 5]	–.0576 (0.99)	20.60	–.0426 (7.34)	–.0001 (0.01)	18.74
(Years of Potential Experience)^2 /100	.1870 (1.45)	–	.0843 (7.96)	.0594 (1.69)	–
Not married or living together	~	40.71	~	~	28.87
Married or living together	–1.756 (5.50)	10.60	–1.165 (32.5)	–.8382 (5.48)	14.93
No dependent children aged < 16	~	16.88	~	~	14.83
One dependent child aged < 16	.5919 (1.57)	26.85	.1941 (4.21)	.2437 (1.56)	18.18
Two dependent children aged < 16	.5579 (1.23)	26.19	.2673 (5.73)	–.0374 (0.23)	14.37
Three dependent children aged < 16	1.411 (2.77)	45.44	1.009 (19.3)	.4775 (2.97)	21.92
Living in the Midlands	~	18.70	~	~	16.11
Living in the North	.1567 (0.41)	21.20	.1930 (4.91)	.0653 (0.39)	17.01
Living in the South	–.1069 (0.26)	17.13	–.0579 (1.47)	–.4401 (2.37)	11.01
Living in Greater London	.5860 (1.90)	29.24	.3892 (8.13)	.2044 (1.45)	19.07
Immigrated Pre-1955	~	–	1.240 (3.10)	–.4190 (0.94)	18.52
Immigrated 1955–1959	~	–	.8469 (4.15)	–.8788 (2.94)	12.55
Immigrated 1960–1964	~	–	.8431 (7.26)	–.7787 (3.39)	13.69
Immigrated 1965–1969	~	–	.4928 (4.15)	–.7665 (3.68)	13.83
Immigrated 1970–1974	~	–	.4478 (3.39)	–.7846 (3.72)	13.62
Immigrated 1975–1979	~	–	.6495 (4.24)	–.6903 (3.18)	14.77
Immigrated 1980–1984	~	–	.9999 (5.87)	–.2697 (1.20)	20.88
Immigrated 1985–1989	~	–	1.379 (8.93)	~	25.68
Immigrated 1990–1994	~	–	2.194 (13.3)	.6986 (3.14)	41.00
Born in USA, CAN, NZ, AUS, Europe	~	–	~	.1033 (0.21)	14.90
Born in the Middle East or N Africa	~	–	~	.7345 (3.12)	24.76
Born in Kenya	~	–	~	–.3331 (1.30)	10.17
Born in Uganda	~	–	~	–.2973 (0.84)	10.50
Born in Central & East Africa	~	–	~	1.101 (4.46)	32.20
Born in West Africa	~	–	~	.7612 (3.28)	25.26
Born in S Africa	~	–	~	–.0132 (0.04)	13.48
Born in Jamaica	~	–	~	.3787 (1.86)	18.74
Born in the rest of the Caribbean	~	–	~	.3219 (1.43)	17.89
Born in Bangladesh	~	–	~	.8448 (3.65)	26.87
Born in Sri Lanka	~	–	~	–.0865 (0.22)	12.65
Born in India	~	–	~	~	13.64
Born in Pakistan	~	–	~	.6740 (4.04)	23.65
Born in HK, Malaysia or Singapore	~	–	~	–.4544 (1.41)	9.11
Born in the rest of the world	~	–	~	–.3000 (1.07)	10.47
Restricted Log-Likelihood (Slopes = 0)	–298.9		–20469.6	–1451.7	
Unrestricted Log-Likelihood	–266.2		–19192.4	–1308.6	
Model χ^2	65.5		2554.4	286.2	
Degrees of Freedom	14		23	36	
Sample Size	539		63255	2954	

Note: Absolute asymptotic t-ratios are in parentheses. All χ^2 statistics are significant at the 1% level. ~ indicates that the variable was not included in the model. Three seasonal and one year dummy variables were also included. In the starred (*) model the foreign born non-white sample is pooled with the white native born sample.
Source: Authors' own calculations based on subsamples from the Quarterly Labour Force Surveys of the United Kingdom, Winter 1992 – Autumn 1994.

Amongst the foreign born samples the above findings are largely replicated. However, since we are controlling for years spent in the United Kingdom (using the year of immigration dummy variables), in the foreign born model, the continuous variables capture the separate effect of years of education and potential labour market experience, accumulated before migration, on the probability of ILO unemployment in England. For both foreign born groups a greater number of years of education, in the home country, significantly reduces the likelihood of being unemployed in England. The predicted probabilities indicate that white immigrants receive a similar quality of education to that of white natives in the United Kingdom and that these skills transfer well across national boundaries (since the effect of 2 extra years of education is similar for both groups).

This is not surprising since a substantial minority of white immigrants are either Irish or from the USA, Canada, Australia or New Zealand where the educational processes are similar to those in Britain and are conducted in the English language. The majority of the other white immigrants have British nationality implying that their parents were working abroad at the time of their birth and they have since returned to the UK (Shields and Wheatley Price, 1998). It is well known that special schooling provisions for ex-patriate children are made in most countries where they were born ensuring that they receive a British-type education.

However, the difference in the predicted probability of unemployment for non-white immigrants, due to two extra years of education is only half that of the white samples. This suggests that the quality of education received by non-white foreign born men in their home country is much poorer, or that it does not transfer well to the English labour market, perhaps due to their lack of fluency in the English language.[14] The unemployment probability of both groups of foreign born men is unaffected by their potential pre-migration labour market experience.[15] This is more serious for non-whites given labour market experience acquired abroad represents a much larger proportion of

[14] See Modood et al. (1997) for evidence on English language ability.

[15] When an identical model to that of natives is estimated for immigrants, we find that the unemployment experience of white foreign born is unaffected by total years of potential experience, but that non-white immigrants have a negative and significant coefficient on this variable.

their total potential labour market experience than is the case for whites (Shields and Wheatley Price, 1998).

The estimated coefficients on the year of immigration cohort dummy variables in the pooled models enable the separate effect of different cohorts of immigrants on current unemployment probabilities to be evaluated, holding the returns to all other characteristics to be constant. For whites immigrants entering the UK during 1955-59, 1975-84, and 1990-94 are significantly more likely to be ILO unemployed than equivalent natives. By contrast non-white immigrants are significantly more likely to be unemployed, than native born whites, no matter when they arrived. The largest coefficients are found for the most recent cohorts, with a decline in influence of year of immigration on ILO unemployment for earlier cohorts until 1970-74, followed by increasing coefficient sizes on successively earlier cohorts. However, these results do not control for country of birth and thus may capture more than the effect of time in the destination country (Borjas, 1985, 1987).[16]

In the foreign born models the coefficients on the year of immigration variables provides an indication of the effect of time spent in the UK (whether engaged in education or the labour market) on current unemployment probabilities. Amongst white foreign born men, controlling for country of birth and pre-migration years of education and potential labour market experience, immigrating between 1980-1984 and 1990-1994 significantly increases the probability of being ILO unemployed, compared to a white immigrant arriving between 1985 and 1989. However, all immigrant cohorts before 1980 have insignificant coefficients.

The extent of the unemployment problem that they experience upon arrival in the UK is evident from the predicted ILO unemployment rates for those who immigrated between 1990 and

[16] Borjas (1985, 1987) has criticised the interpretation of the coefficient on a years since migration measure as the effect of time in the destination country (i.e. assimilation; see Chiswick, 1978). He argues that it captures both this effect and the effect of changes in the distribution of unobserved variables brought about by self-selection processes associated with the initial migration and return migration. In later work (Borjas, 1991; see also Borjas, 1994) he argues that these unobservables are strongly associated with the country of birth. Since we are controlling for country of birth, in the foreign born models, we will interpret the coefficients on the year of immigration dummies as evidence of adjustment or assimilation (see Chiswick and Hurst, 1998).

1994. Nearly 20% of white immigrants, who arrived in that period, are likely to be unemployed whilst the average unemployment rate for white immigrants is predicted to be just 8.79%. Our results indicate a rapid adjustment over the first 5 years in the English labour market, similar to the 3 to 5 year adjustment found in the United States by Chiswick (1982) and Chiswick and Hurst (1998). The unemployment rate falls to 7.49% for the 1985–1989 cohort with all other cohorts having insignificantly different coefficients, except the 1980–1984 cohort. For these white immigrant men the harsh economic conditions at that time may have had a permanent negative affect (or "scar") on this cohort (Chiswick et al. 1997). Alternatively, the survivors, present in our 1993–94 sample may be negatively selected in unobserved characteristics, with the most able having return migrated to Ireland, Europe or the United States (Borjas, 1985). However, those white immigrants who arrived during 1985–89 may be positively scarred or selected as a result of entering the UK labour market during boom conditions. If this is the case the adjustment process may take 10–15 years.

Compared with immigrants born in the Republic of Ireland, white foreign born males from the West, Central and Eastern Africa are significantly less likely to be employed, holding other characteristics constant. Whites born in the USA, Canada, New Zealand and Australia, South-west Europe, North-west Europe and Italy also outperform the Irish. It must be the case that these males received a better quality of schooling or have highly transferable human capital, compared to Irish-born men. All other white male immigrants are no more likely to be unemployed than the Irish except those from the Caribbean who have a positive and significant coefficient. Perhaps the quality of schooling is poorer in the Caribbean than in Ireland, or the labour market skills acquired there may be less transferable to the UK.[17]

The initial unemployment rate experienced by non-white immigrants upon entering the English labour market is 41%. This is double that experienced by recent white immigrants. Evidently, white immigrants come with more pre-arranged jobs, are better informed about the opportunities available in the English labour market before they arrive, or are more effective in their initial job

activity than non-whites. For the average non-white immigrant the improvement in unemployment prospects with time spent in the United Kingdom is dramatic (predicted unemployment rates fall 15% over the first five years). Unemployment rates continue to fall with time spent in the UK, as Chiswick's (1982) model predicts, with those non-white immigrants who arrived between 1955 and 1979 having significantly negative coefficients on their cohort dummies.

The continuing adjustment of non-white immigrants, over the first 20-25 years in the UK (to an unemployment rate of just 12.55%), suggests that they take much longer to adapt to the English labour market than white immigrants do. This process may be hindered by their foreign qualifications, lack of English language fluency, adverse unobserved characteristics or discriminatory attitudes. Some of this disadvantage persists as there remains a gap (of at least 7%) in unemployment rates, between non-white foreign born men and white natives.

Compared to non-white immigrants born in India, those originating in the USA, Canada, Australia or New Zealand, Kenya, Uganda, South Africa, the rest of the Caribbean, Sri Lanka, Hong Kong, Malaysia, Singapore or the rest of the world are not significantly more or less likely to be ILO unemployed. Interestingly, many of these immigrants are also of Asian ethnicity, including those who worked under British colonial rule in East Africa. The non-white foreign born who experienced the greatest probability of unemployment were born in West Africa (32.20), followed by those from Bangladesh (26.87), Central and Eastern Africa (25.26), the Middle East and North Africa (24.76), Pakistan (23.65) and Jamaica (18.74).

In none of these countries (except Jamaica) or areas is the English language widely used. Furthermore, the quality of their schooling, the appropriateness of their labour market skills or the distribution of their unobserved abilities may be poorer than those of Indian born immigrants. The differential unemployment experience amongst ethnic Blacks (e.g. Jamaicans and West Africans) and South Asians (e.g. Bangladeshis and Indians) suggests that measures of discrimination in the United Kingdom based on these broad ethnic groups (e.g. Blackaby et al., 1997), are misleading. Indeed

[17] However, they are a relatively small group with only 30 persons in this category.

characteristics associated with country of birth may provide alternative explanations for the variation in measures of discrimination (Blackaby et al. 1999).

VI. CONCLUSION

We have examined the unemployment experience of native and foreign born, white and non-white males, aged 25-64 and residing in England, utilising data from the Quarterly Labour Force Survey of the United Kingdom 1993-4. Estimates, using logistic models have been obtained for both the International Labour Office (ILO) definition and the official government measure (the claimant count) of unemployment. The adjustment process, which occurs as immigrants spend time in the UK, and the importance of country of birth have been investigated using the model hypotheses proposed by Chiswick (1982).

Our results show that there are large differences in the unemployment experience of 25-64 year old males in the English labour market, according to ethnic and immigrant status. Increased years of education significantly reduce the probability of ILO unemployment for all groups, except non-white natives. Additional years of potential labour market experience have no significant effect on the unemployment likelihood for non-white native born men. Similarly, additional years of pre-migration potential labour market experience do not help explain the unemployment experience of either foreign born group.

For both groups of immigrant workers, there is some evidence that the adjustment process, outlined by Chiswick (1982) and Chiswick and Hurst (1998), is valid in the English labour market. The unemployment rates of recent immigrants are more than double those of their respective averages. White immigrants, after only 10-15 years, experience unemployment rates similar to those of native born whites, whereas the unemployment probabilities of non-white immigrants never converge to those of white natives. Non-white immigrants experience a more severe unemployment problem when they first arrive, which diminishes rapidly to about 14% after about 15-20 years.

Our results also show that there are wide variations in the unemployment experience of immigrants, according to country of birth, even when all these other factors have been controlled for. We have suggested that these differences may be attributable to the quality of education obtained abroad, the transferability of human capital acquired before migration, the lack of English language skills and variations in the distribution of unobserved characteristics. Future research, using more detailed data, may be able to distinguish between these alternative explanations and examine the adjustment process of specific immigrant groups. The results of such studies will be valuable for the formation of future immigration policy. Only once these possibilities have been allowed for will more accurate measures of discrimination, amongst ethnic groups with substantial proportions of immigrants, be possible.

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APPENDIX

Table A1. Descriptive Statistics: all men aged 25-64

Variable	White				Non-White			
	Native Born		Foreign Born		Native Born		Foreign Born	
	Mean	St.Dev.	Mean	St.Dev.	Mean	St.Dev.	Mean	St.Dev.
Unemployment Rate (Claimant Count Measure)	0.079	0.270	0.092	0.289	0.219	0.414	0.149	0.356
Foreign Born / Native Born	-	-	0.045	0.208	-	-	0.857	0.350
Years of Education	11.57	2.49	12.86	3.90	12.92	2.90	13.30	4.64
Years of Potential Experience	26.58	12.05	25.90	13.09	12.53	7.17	24.48	12.40
Married or living together	0.790	0.407	0.775	0.418	0.541	0.499	0.846	0.361
No dependent children aged < 16	0.632	0.482	0.628	0.484	0.639	0.481	0.431	0.495
One dependent child aged < 16	0.148	0.355	0.145	0.352	0.167	0.373	0.177	0.382
Two dependent children aged < 16	0.158	0.365	0.154	0.361	0.123	0.329	0.205	0.404
Three dependent children aged < 16	0.062	0.241	0.074	0.262	0.071	0.257	0.187	0.390
Living in the Midlands	0.201	0.401	0.130	0.336	0.204	0.403	0.198	0.398
Living in the North	0.316	0.465	0.153	0.360	0.174	0.379	0.176	0.381
Living in the South	0.385	0.487	0.360	0.480	0.155	0.362	0.162	0.369
Living in Greater London	0.098	0.297	0.357	0.479	0.467	0.499	0.463	0.499
Immigrated Pre-1955	-	-	0.207	0.405	-	-	0.016	0.124
Immigrated 1955-1959	-	-	0.147	0.354	-	-	0.062	0.240
Immigrated 1960-1964	-	-	0.154	0.361	-	-	0.195	0.396
Immigrated 1965-1969	-	-	0.126	0.332	-	-	0.190	0.393
Immigrated 1970-1974	-	-	0.093	0.290	-	-	0.172	0.378
Immigrated 1975-1979	-	-	0.059	0.235	-	-	0.123	0.329
Immigrated 1980-1984	-	-	0.050	0.217	-	-	0.076	0.264
Immigrated 1985-1989	-	-	0.087	0.282	-	-	0.084	0.278
Immigrated 1990-1994	-	-	0.077	0.267	-	-	0.082	0.274
Born in the Republic of Ireland	-	-	0.299	0.458	-	-	-	-
Born in the USA	-	-	0.045	0.207	-	-	-	-
Born in Canada, NZ or Australia	-	-	0.077	0.266	-	-	-	-
Born in SW Europe	-	-	0.055	0.228	-	-	-	-
Born in Italy	-	-	0.057	0.231	-	-	-	-
Born in Germany	-	-	0.064	0.244	-	-	-	-
Born in NW Europe	-	-	0.058	0.234	-	-	-	-
Born in SE Europe	-	-	0.077	0.266	-	-	-	-
Born in Eastern Europe	-	-	0.042	0.202	-	-	-	-
Born in USA, CAN, NZ, AUS, Europe	-	-	-	-	-	-	0.009	0.096
Born in the Middle East or N Africa	-	-	0.049	0.216	-	-	0.053	0.224
Born in Kenya	-	-	-	-	-	-	0.076	0.265
Born in Uganda	-	-	-	-	-	-	0.037	0.190
Born in Central & East Africa	-	-	-	-	-	-	0.038	0.192
Born in West Africa	-	-	-	-	-	-	0.049	0.216
Born in W, Central & E Africa	-	-	0.028	0.164	-	-	-	-
Born in S Africa	-	-	0.038	0.192	-	-	0.030	0.170
Born in Jamaica	-	-	-	-	-	-	0.079	0.271
Born in the rest of the Caribbean	-	-	-	-	-	-	0.065	0.247
Born in the Caribbean	-	-	0.011	0.104	-	-	-	-
Born in Bangladesh	-	-	-	-	-	-	0.052	0.223
Born in Sri Lanka	-	-	-	-	-	-	0.022	0.145
Born in India	-	-	0.030	0.171	-	-	0.243	0.429
Born in Pakistan	-	-	-	-	-	-	0.147	0.355
Born in Bangladesh/Sri Lanka/Pakistan	-	-	0.009	0.093	-	-	-	-
Born in HK, Malaysia or Singapore	-	-	0.035	0.184	-	-	0.044	0.204
Born in the rest of the world	-	-	0.024	0.152	-	-	0.051	0.220
Sample Size	67679		3206		593		3560	

Note: For dummy variables, the values shown are the proportion of the sample for which the value is one.
Source: Authors' own calculations based on subsamples from the Quarterly Labour Force Surveys

of the United Kingdom, Winter 1992 – Autumn 1994.

Table A2. Logistic regression results: claiming unemployment benefit – white men

Variable [Predicted probability]	Native Born Coefficients (T-ratios)	Native Born Predicted Probabilities	Pooled Coefficients (T-ratios)	Foreign Born Coefficients (T-ratios)	Foreign Born Predicted Probabilities
Constant [Average person]	.0889 (0.64)	6.85	.0439 (0.33)	–.0444 (0.08)	6.60
Years of Education [+ 2]	–.1717 (20.8)	4.96	–.1682 (21.8)	–.1122 (4.62)	5.34
Years of Potential Experience [+ 5]	.0164 (2.61)	5.97	.0173 (2.83)	.0317 (1.25)	6.24
(Years of Potential Experience)^2 /100	–.0665 (5.79)	–	–.0667 (6.01)	–.0766 (1.72)	–
Not married or living together	~	13.60	~	~	15.75
Married or living together	–.9639 (26.2)	5.67	–.9790 (27.4)	–1.256 (7.87)	5.06
No dependent children aged < 16	~	6.31	~	~	5.82
One dependent child aged < 16	.0440 (0.89)	6.58	.0555 (1.15)	.2432 (1.11)	7.30
Two dependent children aged < 16	.1656 (3.42)	7.37	.1681 (3.55)	.1931 (0.84)	6.97
Three dependent children aged < 16	.8837 (16.1)	14.02	.8865 (16.6)	.9325 (3.84)	13.97
Living in the Midlands	~	6.55	~	~	7.73
Living in the North	.0980 (2.39)	7.17	.0856 (2.12)	–.2590 (1.10)	6.07
Living in the South	–.0207 (0.51)	6.42	–.0406 (1.02)	–.4145 (1.96)	5.24
Living in Greater London	.2577 (4.78)	8.31	.2700 (5.26)	.0525 (0.26)	8.11
Immigrated Pre-1955	~	–	.1853 (1.23)	–.1869 (0.58)	5.50
Immigrated 1955–1959	~	–	.2663 (1.65)	–.0439 (0.14)	6.29
Immigrated 1960–1964	~	–	–.0591 (0.34)	–.3041 (1.01)	4.92
Immigrated 1965–1969	~	–	.3248 (1.98)	.1667 (0.57)	7.65
Immigrated 1970–1974	~	–	.1444 (0.70)	–.0417 (0.13)	6.30
Immigrated 1975–1979	~	–	.3878 (1.56)	.2428 (0.71)	8.20
Immigrated 1980–1984	~	–	.6637 (2.72)	.5089 (1.52)	10.44
Immigrated 1985–1989	~	–	.2346 (1.09)	~	6.55
Immigrated 1990–1994	~	–	.5590 (2.41)	.5584 (1.70)	10.92
Born in the Republic of Ireland	~	–	~	~	10.64
Born in the USA	~	–	~	–1.787 (2.94)	1.95
Born in Canada, NZ or Australia	~	–	~	–1.179 (3.48)	3.53
Born in SW Europe	~	–	~	–.6254 (2.05)	5.99
Born in Italy	~	–	~	–1.026 (2.82)	4.09
Born in Germany	~	–	~	–.5035 (5.25)	6.71
Born in NW Europe	~	–	~	–1.079 (2.77)	3.89
Born in SE Europe	~	–	~	.0762 (0.34)	11.38
Born in Eastern Europe	~	–	~	–.2329 (0.70)	8.62
Born in the Middle East or N Africa	~	–	~	–.4594 (1.33)	6.99
Born in W, Central & E Africa	~	–	~	–1.730 (2.36)	2.07
Born in S Africa	~	–	~	–.3011 (0.86)	8.10
Born in the Caribbean	~	–	~	1.130 (2.66)	26.93
Born in Bangladesh/Sri Lanka/Pakistan	~	–	~	–.5191 (0.68)	6.61
Born in India	~	–	~	–.1306 (0.33)	9.46
Born in HK, Malaysia or Singapore	~	–	~	–.5324 (1.39)	6.53
Born in the rest of the world	~	–	~	–.7259 (1.35)	5.45
Restricted Log-Likelihood (Slopes = 0)	–18755.9		–19741.5	–982.5	
Unrestricted Log-Likelihood	–17851.1		–18762.2	–873.1	
Model χ^2	1809.7		1958.7	218.8	
Degrees of Freedom	14		23	38	
Sample Size	67679		70855	3206	

Note: Absolute asymptotic t-ratios are in parentheses. All χ^2 statistics are significant at the 1% level. ~ indicates that the variable was not included in the model. Three seasonal and one year dummy variables were also included.
Source: Authors' own calculations based on subsamples from the Quarterly Labour Force Surveys of the United Kingdom, Winter 1992 – Autumn 1994.

Table A3. Logistic regression results: claiming unemployment benefit – non-white men

Variable [Predicted probability]	Native Born Coefficients (T-ratios)	Native Born Predicted Probabilities	Pooled* Coefficients (T-ratios)	Foreign Born Coefficients (T-ratios)	Foreign Born Predicted Probabilities
Constant [Average person]	-1.508 (1.31)	18.85	-.1604 (1.33)	-.7839 (1.93)	12.79
Years of Education [+ 2]	-.0029 (0.05)	18.76	-.1463 (21.7)	-.0739 (5.11)	11.23
Years of Potential Experience [+ 5]	.0552 (0.83)	19.06	.0140 (2.41)	.0507 (2.70)	12.77
(Years of Potential Experience)^2 /100	-.1738 (0.99)	-	-.0605 (5.72)	-.0944 (2.92)	-
Not married or living together	~	34.26	~	~	23.35
Married or living together	-1.494 (4.95)	10.47	-.9717 (27.5)	-.8644 (5.67)	11.37
No dependent children aged < 16	~	16.15	~	~	10.55
One dependent child aged < 16	.3128 (0.85)	20.84	.0915 (1.98)	.4242 (2.72)	15.27
Two dependent children aged < 16	.2011 (0.45)	19.06	.1671 (3.63)	.1808 (1.13)	12.38
Three dependent children aged < 16	1.555 (3.49)	47.70	.8584 (16.9)	.5635 (3.57)	17.16
Living in the Midlands	~	13.88	~	~	12.67
Living in the North	.4242 (1.15)	19.76	.0933 (2.37)	-.0841 (0.52)	11.77
Living in the South	.1481 (0.37)	15.74	-.0354 (0.90)	-.1824 (1.03)	10.79
Living in Greater London	.5758 (1.87)	22.27	.3023 (6.28)	.1178 (0.85)	14.03
Immigrated Pre-1955	~	-	.7862 (1.88)	-.4639 (0.98)	11.63
Immigrated 1955-1959	~	-	.6315 (2.93)	-.6463 (2.11)	9.68
Immigrated 1960-1964	~	-	.7758 (6.91)	-.4115 (1.80)	12.18
Immigrated 1965-1969	~	-	.6239 (5.65)	-.3389 (1.63)	12.98
Immigrated 1970-1974	~	-	.4022 (3.09)	-.5199 (2.44)	11.07
Immigrated 1975-1979	~	-	.5552 (3.73)	-.4920 (2.24)	11.35
Immigrated 1980-1984	~	-	.6880 (3.91)	-.2728 (1.17)	13.75
Immigrated 1985-1989	~	-	1.053 (6.63)	~	17.31
Immigrated 1990-1994	~	-	1.209 (7.43)	.0793 (0.35)	18.47
Born in USA, CAN, NZ, AUS, Europe	~	-	~	.0170 (0.03)	11.89
Born in the Middle East or N Africa	~	-	~	.5661 (2.41)	18.94
Born in Kenya	~	-	~	-.6906 (2.48)	6.24
Born in Uganda	~	-	~	-.4175 (1.21)	8.04
Born in Central & East Africa	~	-	~	1.050 (4.47)	27.49
Born in West Africa	~	-	~	.3857 (1.59)	16.33
Born in S Africa	~	-	~	-.4246 (1.18)	7.98
Born in Jamaica	~	-	~	.1949 (0.94)	13.88
Born in the rest of the Caribbean	~	-	~	.3236 (1.50)	15.49
Born in Bangladesh	~	-	~	.8575 (4.14)	23.82
Born in Sri Lanka	~	-	~	-.4318 (0.96)	7.93
Born in India	~	-	~	~	11.71
Born in Pakistan	~	-	~	.4353 (2.67)	17.01
Born in HK, Malaysia or Singapore	~	-	~	-.7280 (2.07)	6.02
Born in the rest of the world	~	-	~	-.0595 (0.22)	11.11
Restricted Log-Likelihood (Slopes = 0)	-311.9		-20706.9	-1499.6	
Unrestricted Log-Likelihood	-282.9		-19631.7	-1392.5	
Model χ^2	58.0		2150.3	214.3	
Degrees of Freedom	14		23	36	
Sample Size	593		71831	3560	

Note: Absolute asymptotic t-ratios are in parentheses. All χ^2 statistics are significant at the 1% level. ~ indicates that the variable was not included in the model. Three seasonal and one year dummy variables were also included. In the starred (*) model the foreign born non-white sample is pooled with the white native born sample.
Source: Authors' own calculations based on subsamples from the Quarterly Labour Force Surveys of the United Kingdom, Winter 1992 – Autumn 1994.